

### **Remarks**

Claims 1-20 and 22-29 are pending in the application.

Claims 1-20 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (Sync-MS: Synchronized Messaging Service for Real-time Multi-Player Distributed Games, hereinafter "Lin") in view of Lamport (Time, Clocks, and the Ordering of Events in a Distributed System, hereinafter "Lamport").

Claims 1-20 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Watson Jr. et al. (US 4,633,421, hereinafter "Watson").

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Entry of this Amendment is proper under 37 CFR 1.116 since the amendment: (a) places the application in condition for allowance for the reasons discussed herein; (b) does not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfies a requirement of form asserted in the previous Office Action; (d) does not present any additional claims without canceling a corresponding number of finally rejected claims; or (e) places the application in better form for appeal, should an appeal be necessary. The amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of the amendment is thus respectfully requested.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel

and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewriting to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

### **Rejection Under 35 U.S.C. 103**

#### **Rejections in View of Lin and Lampert**

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of non-obviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be

sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." In re Kahn, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in KSR Int'l Co. v. Teleflex, Inc., 126 S. Ct. 2965 (2006); see also MPEP §2141.

**Claims 1-18 and 22-29 (Lin and Lampport)**

Claims 1-18 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Lampport. The rejections are traversed.

The Office Action failed to establish a *prima facie* case of obviousness, because the combination of Lin and Lampport fails to teach or suggest all the claim elements. Namely, Lin and Lampport, alone or in combination, fail to teach or suggest at least the limitations of "computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods" and "queuing each received action message for use in delivering the action message for processing by the game server, wherein the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time," as claimed in Applicants' claim 1.

Lin discloses a system having a game server and player servers. In the system of Lin, a Sync-Out process is used for synchronized delivery of state update messages to all player stations, and a Sync-In process is used to provide fair delivery order of action messages to a game server. As described in Lin, the Sync-MS Server maintains a queue of received action messages pending for deliver to the game server, where the messages in the queue are sorted based on their sending time, and where a waiting time is determined for a head message in the message queue. (Lin, Pg. 4, Section 5).

Lin is devoid of any teaching or suggestion of computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and

whether action messages arrive within their wait timeout periods. Similarly, Lin is devoid of any teaching or suggestion of queuing each received action message for use in delivering the action message for processing by the game server, where the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time.

Furthermore, Lamport fails to bridge the substantial gap between Lin and Applicants' claim 1.

Lamport discloses a distributed algorithm for synchronizing a system of logical clocks which can be used to order events in a distributed system. Lamport is devoid of any teaching or suggestion of computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods. Similarly, Lamport is devoid of any teaching or suggestion of queuing each received action message for use in delivering the action message for processing by the game server, where the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time.

Thus, Lamport fails to teach or suggest at least the limitations of "computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods" and "queuing each received action message for use in delivering the action message for processing by the game server, wherein the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time," as claimed in Applicants' claim 1.

As such, independent claim 1 is patentable under 35 U.S.C. 103(a) over Lin in view of Lamport. Independent claim 22 recites relevant limitations similar to those recited in independent claim 1 and, as such, and at least for the same reasons as discussed above, independent claim 22 also is patentable under 35 U.S.C. 103(a) over Lin in view

of Lampport. Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is patentable under 35 U.S.C. 103(a) over Lin in view of Lampport.

Therefore, Applicants' claims 1-18 and 22-29 are patentable under 35 U.S.C. 103(a) Lin in view of Lampport. The Examiner is respectfully requested to withdraw the rejection.

**Claims 19-20 (Lin and Lampport)**

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Lampport. The rejection is traversed.

The Office Action failed to establish a *prima facie* case of obviousness, because the combination of Lin and Lampport fails to teach or suggest all the claim elements. Namely, Lin and Lampport, alone or in combination, fail to teach or suggest at least the limitations of "calculating a plurality of reaction times for said respective update messages using said respective reception times of said update messages" and "propagating, toward said game server, an action message including said reaction times for said respective update messages," as claimed in Applicants' claim 19.

Lin discloses a system having a game server and player servers. In the system of Lin, a Sync-Out process is used for synchronized delivery of state update messages to all player stations, and a Sync-In process is used to provide fair delivery order of action messages to a game server.

Lin, however, fails to teach or suggest associating multiple updated messages with a single action message in the manner claimed in Applicants' claim 19. Namely, Lin fails to teach or suggest at least the limitations of "calculating a plurality of reaction times for said respective update messages using said respective reception times of said update messages" and "propagating, toward said game server, an action message including said reaction times for said respective update messages," as claimed in Applicants' claim 19.

Furthermore, Lampport fails to bridge the substantial gap between Lin and Applicants' claim 19.

Lampport discloses a distributed algorithm for synchronizing a system of logical

clocks which can be used to order events in a distributed system. Lamport is devoid of any teaching or suggestion of a gaming system in which update and action messages are exchanged. Thus, Lamport fails to teach or suggest at least the limitations of “calculating a plurality of reaction times for said respective update messages using said respective reception times of said update messages” and “propagating, toward said game server, an action message including said reaction times for said respective update messages,” as claimed in Applicants’ claim 19.

As such, independent claim 19 is patentable under 35 U.S.C. 103(a) over Lin in view of Lamport. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the independent claim, each such dependent claim also is patentable under 35 U.S.C. 103(a) over Lin in view of Lamport.

Therefore, Applicants’ claims 19-20 are patentable under 35 U.S.C. 103(a) Lin in view of Lamport. The Examiner is respectfully requested to withdraw the rejection.

#### **Rejections in View of Lin and Watson**

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of non-obviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in

KSR Int'l Co. v. Teleflex, Inc., 126 S. Ct. 2965 (2006); see also MPEP §2141.

**Claims 1-18 and 22-29 (Lin and Watson)**

Claims 1-18 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Watson. The rejections are traversed.

The Office Action failed to establish a *prima facie* case of obviousness, because the combination of Lin and Watson fails to teach or suggest all the claim elements. Namely, Lin and Watson, alone or in combination, fail to teach or suggest at least the limitations of “computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods” and “queuing each received action message for use in delivering the action message for processing by the game server, wherein the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time,” as claimed in Applicants’ claim 1.

As described hereinabove with respect to the rejection of claim 1 in view of Lin and Lamport, Lin fails to teach or suggest at least the limitations of “computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods” and “queuing each received action message for use in delivering the action message for processing by the game server, wherein the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time,” as claimed in Applicants’ claim 1.

Furthermore, Watson fails to bridge the substantial gap between Lin and Applicants’ claim 1.

Watson discloses a method for transposing the time of an event as read at a remote station with one clock to the time frame of another clock at a master station when the

clocks are not synchronized and are of insufficient accuracy to provide measurements to within a few microseconds relative to other time measurements which are likewise transposed to refer to the master clock. Watson is devoid of any teaching or suggestion of computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods. Similarly, Watson is devoid of any teaching or suggestion of queuing each received action message for use in delivering the action message for processing by the game server, where the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time.

Thus, Watson fails to teach or suggest at least the limitations of “computing, for each received action message, a respective delivery time for use in delivering the action message for processing by the game server, wherein an appropriate delivery time formula for an action message is utilized depending on whether action messages arrive in order and whether action messages arrive within their wait timeout periods” and “queuing each received action message for use in delivering the action message for processing by the game server, wherein the queued action messages are arranged in an order of increasing update message number and are further arranged for each update message in an order of increasing reaction time,” as claimed in Applicants’ claim 1.

As such, independent claim 1 is patentable under 35 U.S.C. 103(a) over Lin in view of Watson. Independent claim 22 recites relevant limitations similar to those recited in independent claim 1 and, as such, and at least for the same reasons as discussed above, independent claim 22 also is patentable under 35 U.S.C. 103(a) over Lin in view of Watson. Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim also is patentable under 35 U.S.C. 103(a) over Lin in view of Watson.



Therefore, Applicants' claims 1-18 and 22-29 are patentable under 35 U.S.C. 103(a) Lin in view of Watson. The Examiner is respectfully requested to withdraw the rejection.

**Claims 19-20 (Lin and Watson)**

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Watson. The rejection is traversed.

The Office Action failed to establish a *prima facie* case of obviousness, because the combination of Lin and Watson fails to teach or suggest all the claim elements. Namely, Lin and Watson, alone or in combination, fail to teach or suggest at least the limitations of "calculating a plurality of reaction times for said respective update messages using said respective reception times of said update messages" and "propagating, toward said game server, an action message including said reaction times for said respective update messages," as claimed in Applicants' claim 19.

As described hereinabove with respect to the rejection of claim 19 in view of Lin and Lamport, Lin fails to teach or suggest at least the limitations of "calculating a plurality of reaction times for said respective update messages using said respective reception times of said update messages" and "propagating, toward said game server, an action message including said reaction times for said respective update messages," as claimed in Applicants' claim 19.

Furthermore, Watson fails to bridge the substantial gap between Lin and Applicants' claim 19.

Watson discloses a method for transposing the time of an event as read at a remote station with one clock to the time frame of another clock at a master station when the clocks are not synchronized and are of insufficient accuracy to provide measurements to within a few microseconds relative to other time measurements which are likewise transposed to refer to the master clock. Watson is devoid of any teaching or suggestion of a gaming system in which update and action messages are exchanged. Thus, Watson fails to teach or suggest at least the limitations of "calculating a plurality of reaction times for said respective update messages using said respective reception times of said update messages" and "propagating, toward said game server, an action message including said

reaction times for said respective update messages,” as claimed in Applicants’ claim 19.

As such, independent claim 19 is patentable under 35 U.S.C. 103(a) over Lin in view of Watson. Furthermore, since all of the dependent claims that depend from the independent claim include all the limitations of the independent claim, each such dependent claim also is patentable under 35 U.S.C. 103(a) over Lin in view of Watson.

Therefore, Applicants’ claims 19-20 are patentable under 35 U.S.C. 103(a) Lin in view of Watson. The Examiner is respectfully requested to withdraw the rejection.


**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at 732-842-8110 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

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